

## [54] SMALL-SIZED ELECTRONIC CALCULATOR

[75] Inventor: Hitoshi Kodaira, Higashikurume,  
Japan[73] Assignee: Beam Engineering Kabushiki Kaisha,  
Tokyo, Japan

[21] Appl. No.: 4,604

[22] Filed: Jan. 18, 1979

## [30] Foreign Application Priority Data

Feb. 7, 1978 [JP]	Japan	53-13395[U]
Feb. 7, 1978 [JP]	Japan	53-13396[U]
Feb. 20, 1978 [JP]	Japan	53-19712[U]
May 29, 1978 [JP]	Japan	53-71663[U]
Jul. 27, 1978 [JP]	Japan	53-103387[U]

[51] Int. Cl.<sup>3</sup> ..... G06F 15/02[52] U.S. Cl. .... 364/707; 136/291;  
364/705; 364/708[58] Field of Search ..... 364/705, 707, 708;  
136/89 TF, 89 AC; 340/636

## [56]

## References Cited

## U.S. PATENT DOCUMENTS

3,940,679	2/1976	Brandwein et al. ....	340/636 X
4,017,725	4/1977	Roen .....	364/705
4,096,577	6/1978	Ferber et al. ....	364/708 X
4,120,036	10/1978	Maeda et al. ....	364/705
4,152,535	5/1979	Deminet et al. ....	136/89 TF

Primary Examiner—Jerry Smith

Attorney, Agent, or Firm—Robert E. Burns; Emmanuel  
J. Lobato; Bruce L. Adams

## [57]

## ABSTRACT

A small-sized electronic calculator, which comprises a power source in the form of a solar battery having a film of polycrystalline photoconductive material, such as selenium. The solar battery is connected for angular movement to the calculator body by suitable connection means, such as a hinge and a foldable metal spring. The calculator body includes a display section of liquid crystal elements. The solar battery may include an over-voltage preventing circuit and a reset switch. The output of the solar battery may be converted to a digital value to indicate the luminescent by the display section.

16 Claims, 16 Drawing Figures

